

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims in accordance with the following:

1. (PREVIOUSLY PRESENTED) A method for automatically updating a shared central subscriber directory used over a network by different autonomous telephony messaging systems to route subscriber messages, comprising:

generating an update request in response to an event that changes voice messaging subscriber information in a subscriber database of a voice messaging system based on a determination that said event is one of predetermined events requiring an update across the telephony messaging systems;

appending the update request generated to a queue and reading each update request from the queue on a first-in first-out basis; and

automatically updating the shared central subscriber directory including corresponding voice messaging subscriber information based on the update request, where the updated shared central subscriber directory is used by the different autonomous telephony messaging systems to route subscriber voice messages.

2. (PREVIOUSLY PRESENTED) A method as recited in claim 1, further comprising storing the update event at an intermediate server while maintaining synchronicity between the update event and the messaging system.

3. (PREVIOUSLY PRESENTED) A method as recited in claim 1, wherein said generating occurs only when information changed in a message box has corresponding information in the shared central subscriber directory.

4. (ORIGINAL) A method as recited in claim 3, further comprising sending the update request from the intermediate server to a proxy client that in turn sends the update request to the shared central subscriber directory.

5. (ORIGINAL) A method as recited in claim 1, wherein said generating and updating is performed by a plurality of messaging systems that also access the shared central subscriber directory.

6. (ORIGINAL) A method as recited in claim 1, wherein said generating is responsive to a change to a message box initiated by a subscriber telephone call.

7. (CURRENTLY AMENDED) A method for automatically ~~synchronizing~~ updating a shared central subscriber directory server used over a network by different autonomous telephony voice messaging systems to route voice subscriber messages, comprising:

generating an update request for updating the shared subscriber directory server when one of subscriber actions and administrator actions update voice messaging subscriber information in a database of one of the voice messaging systems, said generating being based on a determination that one of the subscriber actions and the administrator actions matches predetermined events requiring an update across the voice messaging systems;

appending, when the update request is generated, the update request to a queue managed by an update server and in a same order as one of corresponding subscriber actions and corresponding administrator actions occur;

reading the update requests from the queue on a first-in first-out basis;

sending the update requests to the shared subscriber directory server; and

automatically updating the shared subscriber directory server in real-time based on the update request whereby an updated shared central subscriber directory of said server is used by the different autonomous telephony voice messaging systems to route voice subscriber messages.

8. (ORIGINAL) A method as recited in claim 7, further comprising refreshing subscriber information in the update requests, after said reading and before said sending, in accordance with current corresponding subscriber information in the voice messaging system, when the update requests are one of expired and in a queue not primarily associated with the voice messaging system having the subscriber information.

9. (ORIGINAL) A method as recited in claim 7, wherein said appending, reading, sending and refreshing are performed by an intermediate server managing the queue, and said generating occurs at one of an application process, an administrative utility, and a bulk data upload utility.

10. (ORIGINAL) The method as recited in claim 9, wherein the bulk data upload utility generates update requests for one of ranges of message boxes in the voice messaging system, all message boxes in the voice messaging system, and ranges of message boxes in the voice messaging system.

11. (ORIGINAL) A method as recited in claim 7, wherein the shared subscriber directory is accessed using one of Lightweight Directory Access Protocol X.500 protocol.

12. (ORIGINAL) A method as recited in claim 7, wherein the subscriber directory resides in a remote, foreign addressing domain and is shared by messaging systems from different vendors.

13. (ORIGINAL) A method as recited in claim 7, further comprising appending the update request to a queue of a secondary update server when a primary update server is unavailable.

14. (ORIGINAL) A method as recited in claim 7, further comprising reading from a second update server the update requests in the queue responsive to a failure impairing the update server.

15. (ORIGINAL) A method as recited in claim 7, wherein the subscriber action comprises a telephone call that updates the message box of the subscriber.

16. (ORIGINAL) A method as recited in claim 7, wherein one of subscriber actions and administrator actions comprises one of creating a message box, deleting a message box, modifying a message box, suspending a message box, reinstating a message box, reinitializing a message box, and migrating a message box from a first voice messaging system to a second voice messaging system.

17. (ORIGINAL) A method as recited in claim 7, wherein said generating is triggered in an application corresponding to one of the subscriber action and the administrator action.

18. (ORIGINAL) A method as recited in claim 17, wherein the application corresponding to one of the subscriber action and the administrator action resumes processing immediately after said generating.

19. (ORIGINAL) A method as recited in claim 7, wherein said generating is responsive to a change to a message box initiated by a subscriber telephone call.

20. (ORIGINAL) A method as recited in claim 7, further comprising determining whether name announcements are attributes of subscriber information that are updated on the shared directory server.

21. (PREVIOUSLY PRESENTED) A method as recited in claim 20, further comprising including name announcement data with the update requests if said determining indicates that name announcement data is updated on the shared directory server, and transcoding the name announcement before sending said announcement data to the shared subscriber directory server.

22. (CURRENTLY AMENDED) A method for automatically ~~synchronizing~~ updating a shared subscriber directory server ~~used by with a different autonomous~~ voice messaging ~~systems~~ systems to route voice subscriber messages, comprising:

generating, responsive to a subscriber telephone call, an update request for updating the shared subscriber directory server when one of subscriber actions and administrator actions update voice messaging subscriber information in the voice messaging system, said generating being based on a determination that one of the subscriber actions and the administrator actions matches predetermined events requiring an update across the voice messaging system;

appending, the update request to a queue managed by an update server and in a same order as one of corresponding subscriber actions and corresponding administrator actions occur;

reading, with the update server, the update requests from the queue on a first-in first-out

basis;

refreshing, with the update server, voice messaging subscriber information in the update requests, after said reading and before said sending, in accordance with current corresponding voice messaging subscriber information in the voice messaging system, when the update requests are one of expired and in a queue not primarily associated with the voice messaging system having the voice messaging subscriber information;

sending the update requests from the update server to the shared subscriber directory server using Lightweight Directory Access Protocol; and

automatically updating the shared subscriber directory server in real-time based on the update request and using an updated shared central subscriber directory of said server to route voice subscriber messages.

23. (CURRENTLY AMENDED) A computer readable storage medium ~~controlling a computer via a data structure for~~ automatically updating a voice messaging subscriber directory used to route subscriber messages across different autonomous telephony voice messaging systems and comprising a telephone number field, a local access and transport area identifier field, a network routing address field, and a presentation address field, and

where said updating is based on a determination that at least one of predetermined voice messaging related events requiring an update across different autonomous telephony voice messaging systems has occurred, the update is appended to a queue and read from the queue on a first-in first-out basis, and the voice messaging subscriber directory is used to route voice subscriber messages across said different autonomous telephony voice messaging systems based on said updating.

24. (CURRENTLY AMENDED) An apparatus for automatically updating a central subscriber directory used over a network by different autonomous telephony voice messaging systems to route subscriber messages, comprising:

a ~~control unit~~processor generating an update request in response to an event that changes voice messaging subscriber information in a subscriber database of one of the voice messaging systems, the update request being generated based on a determination that the event is one of predetermined events requiring an update across the telephony voice messaging systems; and

a database comprising the central subscriber directory having the voice messaging

subscriber information, where the database is updated by said control unit by appending the update request to a queue and reading from the queue on a first-in first-out basis, whereby the changed voice messaging subscriber information of the central subscriber directory is used by each of the different autonomous telephony voice messaging systems to route subscriber voice messages.

25. (CURRENTLY AMENDED) An apparatus for automatically ~~synchronizing~~ updating a shared subscriber directory server used over a network by different autonomous telephony voice messaging systems to route subscriber voice messages, comprising:

a program-processor generating an update request for updating the shared subscriber directory server when one of subscriber actions and administrator actions update voice messaging subscriber information in the voice messaging system, where the update request is sent when generated and is based on a determination that one of the subscriber actions and the administrator actions matches predetermined events requiring an update across the telephony voice messaging systems;

an update server receiving the update request and appending the update request to a queue managed by said update server in a same order as one of corresponding subscriber actions and corresponding administrator actions occur, said update server reading the update requests from the queue on a first-in first-out basis and sending the update requests to the shared subscriber directory server; and

a shared subscriber directory server updating a voice messaging subscriber database in real-time based on the update request, whereby the updated voice messaging subscriber information of said shared subscriber directory server is used by each of the different autonomous telephony voice messaging systems to route subscriber voice messages.

26. (CURRENTLY AMENDED) A computer readable storage medium having a programinstructions stored therein for ~~controlling a computer to perform operations~~ automatically updating a voice messaging subscriber directory used to route subscriber messages across different autonomous telephone voice messaging systems, ~~said operations~~ comprising:

generating an update request responsive to a voice messaging subscriber information change event in any of plural voice messaging subscriber information databases of respective autonomous voice messaging systems in response to a determination that said event is one of predetermined events requiring an update across the voice messaging systems;

appending the update request generated to a queue and reading each update request from the queue on a first-in first-out basis; and

automatically updating a shared centralized subscriber directory including corresponding voice messaging subscriber information based on the update request used across the autonomous voice messaging systems and using the updated shared centralized subscriber directory to route subscriber voice messages among the plural message by the different autonomous telephone voice messaging systems.

27. (CURRENTLY AMENDED) A method of automatically updating a shared subscriber directory used by different autonomous telephony messaging systems to route subscriber messages, comprising:

automatically updating voice messaging subscriber information of corresponding subscriber databases of the telephony messaging systems and the shared subscriber directory in response to a predetermined voice messaging subscriber information change event at any one of the telephony messaging systems;

appending information of said change event to a queue and reading from the queue on a first-in first-out basis; and

synchronizing updating corresponding routing directories of each of the different autonomous telephony messaging systems in accordance with predetermined voice messaging subscriber information change event, where the telephony messages systems are maintained by multiple vendors and said shared subscriber directory is used across the different autonomous telephony messaging systems to exchange messages.

28. (CURRENTLY AMENDED) A method of updating a shared directory used by different autonomous telephony messaging systems to route voice messages, comprising:

receiving a request for changing voice messaging subscriber information from a corresponding subscriber, said voice messaging subscriber information being stored in a shared directory used by ~~a first of the~~ different autonomous telephony messaging systems and said request being appended to a queue and read from the queue on a first-in first-out basis;

automatically updating the shared directory including the voice messaging subscriber information across each of the telephony messaging systems based on the request; and

using the updated shared directory routing to route a voice message to by the different autonomous telephony messaging systems a second of the telephony systems using the

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updated shared directory.